

## EAST Search History

| Ref # | Hits  | Search Query  | DBs  | Default Operator | Plurals | Time Stamp       |
|-------|-------|---|--|------------------|---------|------------------|
| L2    | 29375 | ((cu copper) with alloy) same ("% percent\$3)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2007/07/19 17:17 |
| L3    | 4711  | L2 and ((diffus\$3 barrier) same (zr ti hf v ta ni cr nb co mn mo w rh pd pt zirconium titanium hafnium vanadium tantalum nickel chromium niobium cobalt manganese molybdenum tungsten rhodium palladium platinum)) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2007/07/19 17:17 |
| L4    | 1953  | L3 and ((diffus\$3 barrier) same (si silicon silicide))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2007/07/19 17:17 |
| L5    | 10286 | ((257/59,72,751,753,762,E27.131) or (349/46,139,147,148)).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/07/19 17:17 |
| L6    | 133   | L4 and L5   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2007/07/19 17:17 |
| L7    | 1820  | L4 not L6   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2007/07/19 17:17 |
| L8    | 752   | L7 and ("257"/\$.ccls. "438"/\$.ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2007/07/19 17:23 |

## EAST Search History

|     |        |  |  |    |    |                  |
|-----|--------|--|--|----|----|------------------|
| L9  | 776    | (diffus\$3 barrier) same (substrate si silicon silicide) same ((cu copper) near2 alloy) same (at% \$2%" "% percent\$3) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/19 17:27 |
| L10 | 326    | L9 and ("257"/\$.ccls. "438"/\$.ccls. "349"/\$.ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/19 17:28 |
| L11 | 293    | L10 not L6   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/19 17:31 |
| S1  | 163062 | (gate scan\$4) near (wiring line bus)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 15:24 |
| S2  | 322293 | (data source) near (wiring line bus)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 15:24 |
| S3  | 5855   | (diffusion near barrier) same copper   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 15:49 |
| S4  | 1697   | copper same (at% (atom\$2 near percent\$3))  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 15:48 |

## EAST Search History

|     |      |   |  |    |    |                  |
|-----|------|---|--|----|----|------------------|
| S5  | 1733 | copper same (at% (atom\$2 near percent\$3) (at near ("% percent\$3)))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 17:35 |
| S6  | 422  | S5 and ((diffus\$3) same copper)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 16:00 |
| S7  | 316  | S6 and (gate scan\$4 data source)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 16:00 |
| S8  | 3086 | (copper cu) same (at% (atom\$2 near percent\$3) (at near ("% percent\$3)))  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 16:41 |
| S9  | 3001 | S8 and (zr ti hf v ta ni cr nb co mn mo w rh pd pt zirconium titanium hafnium vanadium tantalum nickel chromium niobium cobalt manganese molybdenum tungsten rhodium palladium platinum)                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 17:37 |
| S10 | 2825 | S9 and ((cu copper) same (zr ti hf v ta ni cr nb co mn mo w rh pd pt zirconium titanium hafnium vanadium tantalum nickel chromium niobium cobalt manganese molybdenum tungsten rhodium palladium platinum)) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 17:08 |
| S11 | 1240 | S10 and (silicon silicide)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 16:50 |

## EAST Search History

|     |       |  |  |    |    |                  |
|-----|-------|--|--|----|----|------------------|
| S12 | 1015  | S9 and ((silicon silicide) same (zr ti hf v ta ni cr nb co mn mo w rh pd pt zirconium titanium hafnium vanadium tantalum nickel chromium niobium cobalt manganese molybdenum tungsten rhodium palladium platinum))       | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 16:58 |
| S13 | 102   | alloy with interface with barrier with copper  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 16:59 |
| S14 | 13    | S13 same silicon   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 17:06 |
| S15 | 1     | S14 and S8   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 17:06 |
| S16 | 554   | S9 and (((cu copper) near alloy) same (zr ti hf v ta ni cr nb co mn mo w rh pd pt zirconium titanium hafnium vanadium tantalum nickel chromium niobium cobalt manganese molybdenum tungsten rhodium palladium platinum)) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 17:10 |
| S17 | 388   | S16 and (si silicon silicide)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 17:10 |
| S18 | 29351 | ((cu copper) with alloy) same ("% percent\$3)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/17 20:49 |

## EAST Search History

|     |       |  |  |    |     |                  |
|-----|-------|--|--|----|-----|------------------|
| S19 | 4704  | S18 and ((diffus\$3 barrier) same (zr ti hf v ta ni cr nb co mn mo w rh pd pt zirconium titanium hafnium vanadium tantalum nickel chromium niobium cobalt manganese molybdenum tungsten rhodium palladium platinum)) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/17 20:50 |
| S20 | 1951  | S19 and ((diffus\$3 barrier) same (si silicon silicide))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/17 17:41 |
| S21 | 10265 | ((257/59,72,751,753,762,E27.131) or (349/46,139,147,148)).CCLS.  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/07/17 17:41 |
| S22 | 133   | S20 and S21  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/18 21:28 |
| S23 | 8871  | ((cu copper) near alloy) same ("% percent\$3)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/17 20:49 |
| S24 | 19132 | ((cu copper) near alloy) same (\$2"% percent\$3)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/17 20:49 |
| S25 | 3257  | S24 and ((diffus\$3 barrier) same (zr ti hf v ta ni cr nb co mn mo w rh pd pt zirconium titanium hafnium vanadium tantalum nickel chromium niobium cobalt manganese molybdenum tungsten rhodium palladium platinum)) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/17 20:50 |

## EAST Search History

|     |       |  |  |    |     |                  |
|-----|-------|--|--|----|-----|------------------|
| S26 | 2     | "6503641".pn. and liner  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/18 19:10 |
| S27 | 2     | ("4673623"   "5889328").PN. OR<br>("6503641").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR   | OR | ON  | 2007/07/18 19:11 |
| S28 | 2     | ("4673623"   "5889328").PN. OR<br>("6503641").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR   | OR | ON  | 2007/07/18 19:23 |
| S29 | 2     | ("4673623"   "5889328").PN. OR<br>("6503641").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR   | OR | ON  | 2007/07/18 19:24 |
| S30 | 29351 | ((cu copper) with alloy) same ("%"<br>percent\$3)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/18 21:28 |
| S31 | 4704  | S30 and ((diffus\$3 barrier) same (zr<br>ti hf v ta ni cr nb co mn mo w rh pd<br>pt zirconium titanium hafnium<br>vanadium tantalum nickel chromium<br>niobium cobalt manganese<br>molybdenum tungsten rhodium<br>palladium platinum)) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/18 21:28 |
| S32 | 1951  | S31 and ((diffus\$3 barrier) same (si<br>silicon silicide))  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/18 21:28 |
| S33 | 10265 | ((257/59,72,751,753,762,E27.131)<br>or (349/46,139,147,148)).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/07/18 21:28 |
| S34 | 133   | S32 and S33  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2007/07/18 21:28 |

## EAST Search History

|     |      |             |  |    |    |                  |
|-----|------|-------------|--|----|----|------------------|
| S35 | 1818 | S32 not S34 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2007/07/18 21:29 |
|-----|------|-------------|--|----|----|------------------|

# *Interference Search*

## **EAST Search History**

| Ref # | Hits | Search Query   | DBs      | Default Operator | Plurals | Time Stamp       |
|-------|------|--|----------|------------------|---------|------------------|
| S37   | 603  | ((copper cu) and (diffus\$3 barrier) and (Si silicon) and (at% \$3"% "%" percent\$3)).clm. | US-PGPUB | OR               | ON      | 2007/07/19 13:51 |